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STUDY
PROJECT

COMMANDING A C-5 STRATEGIC
AIRLIFT SQUADRON DURING
OPERATIONS DESERT SHIELD/STORM

BY

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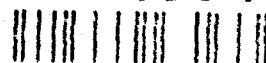
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This paper offers a commander's perspective on strategic, operational and tactical issues that the 9th Airlift Squadron encountered during and following Operations DESERT SHIELD/STORM. On the strategic level, the issues include the need to develop an airlift doctrine that addresses the wartime employment of airlift assets and Reserve Component activation. Operational issues include aircrew qualifications and the use of aircrew members to perform duties other than flying during contingencies. Most of these issues apply to the tactical (squadron) level dealing with multiple aircrew generation problems, casualty notification procedures, dependent care, and aircrew event tracking. A narrative addresses issues chronologically, rather than categorizing them at the different levels. This paper will serve to guide future strategic airlift commanders in preparation for future wartime or contingency airlift operations.

USAWC MILITARY STUDIES PROGRAM PAPER

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COMMANDING A C-5 STRATEGIC AIRLIFT SQUADRON
DURING OPERATIONS DESERT SHIELD/STORM

AN INDIVIDUAL STUDY PROJECT

by

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The opportunity to command is a great honor and privilege. Command has both its rewards and challenges. During wartime they are heightened. I had the privilege to command the 9th Airlift Squadron located at Dover Air Force Base, Delaware, during Operation DESERT SHIELD and DESERT STORM. The wing was preparing for an operational readiness inspection (ORI), planned for August 1990. There were even rumors that the wing would run out of programmed flying hours and would fly only the highest priority missions in the month of September, the last month of the fiscal year. In less than two months, world events changed this picture. Early on Thursday morning 2 August 1990, Saddam Hussein's army invaded Kuwait. On 7 August, the squadron received orders to generate aircrews to begin the airlift. The squadron began what turned out to be the largest airlift operation in history -- Operations DESERT SHIELD and DESERT STORM.

This paper offers a commander's perspective on strategic, operational and tactical issues that the 9th Airlift Squadron encountered during and following Operations DESERT SHIELD/STORM. On the strategic level, the issues include the need to develop an airlift doctrine that addresses the wartime employment of airlift assets and Reserve Component activation. Operational issues include aircrew qualifications and the use of aircrew members to perform duties other than flying during contingencies. Most of these issues apply to the tactical (squadron) level dealing with multiple aircrew generation problems, casualty notification procedures, dependent care, and aircrew event tracking. A narrative addresses issues chronologically, rather than categorizing them at the different levels. This paper will serve to guide future strategic airlift commanders in preparation for future wartime or contingency airlift operations.

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Figure 1 - Side View of C-5 Aircraft

A PERSONAL EXPERIENCE MONOGRAPH
COMMANDING A C-5 STRATEGIC AIRLIFT SQUADRON
DURING OPERATION DESERT SHIELD/STORM

SQUADRON HISTORY

The 9th Airlift Squadron has a long and rich history dating to before World War. Originally activated as the 9th Transport Squadron, it has been deactivated and reactivated on six separate occasions. Additionally it has changed from a Transport Squadron to a Troop Carrier Squadron to a Military Airlift Squadron. On 1

November 1991, the 9th MAS was redesignated once again as an Airlift Squadron under the new Air Mobility Command. The Squadron has flown numerous transport aircraft: C-33s,

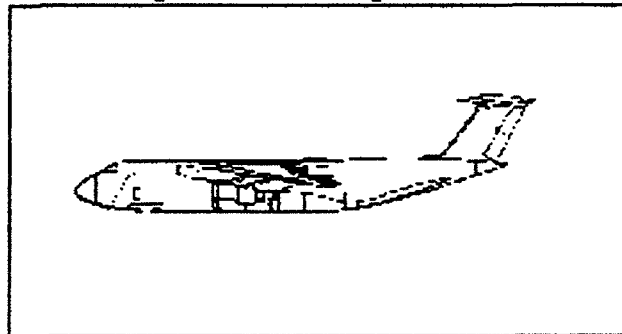


Figure 1 - Side View of a Lockheed C-5 Galaxy.

C-34s, C-39s, C-50s, C-46s, C-47s, and C-124s. In 1966, the 9th Troop Carrier Squadron moved into the jet age with its transition to the C-141A aircraft. The squadron began receiving the C-5 Galaxy aircraft in July 1971. It continues to fly the C-5A/B aircraft today; it has accumulated over 270,000 accident free flying hours. The unit has participated in many historic airlift operations, including

airlift operations, including the Zaire Airlift, URGENT FURY, JUST CAUSE, and most recently Operations DESERT SHIELD and DESERT STORM. For a full history of the 9th Airlift Squadron see Appendix II.

INTRODUCTION

On 15 June 1990, I assumed command of the 9th Military Airlift Squadron (MAS), assigned to the 436th Military Airlift Wing at Dover Air Force Base, Delaware. Seven months earlier, the squadron had been an active participant in Operation JUST CAUSE, the invasion of Panama. As I assumed command, the wing was preparing for an operational readiness inspection (ORI), planned for August. One rumor then had the wing running out of programmed flying hours and flying only the highest priority missions in the month of September, the last month of the fiscal year. In less than two months, world events changed this picture. Early on Thursday morning 2 August 1990, Saddam Hussein's army invaded Kuwait. On 7 August, the squadron received orders to generate aircrews to begin the airlift. The squadron began what later turned out to be the largest airlift operation in history -- Operations DESERT SHIELD and DESERT STORM.

This paper will focus on strategic, operational and tactical issues that the 9th Airlift Squadron encountered during and following Operations DESERT SHIELD/STORM. On the strategic

level, the issues include the need to develop an airlift doctrine that addresses the wartime employment of airlift assets and Reserve Component activation. Operational issues include aircrew qualifications and the use of aircrew members to perform duties other than flying during contingencies. Most of these issues apply to the tactical (squadron) level. Among the issues addressed are multiple aircrew generation problems, casualty notification procedures, dependent care, and aircrew event tracking. The narrative portion of the paper will address these issues chronologically, rather than categorizing them at the different levels. However, Appendix I provides a summary of the lessons organized by the level at which they apply. This paper will serve as a guide to future strategic airlift commanders in preparation for future wartime or contingency airlift operations.

Getting Organized

The major difference between a strategic airlift squadron's peacetime and wartime mission is the increased operations tempo. As noted earlier, the wing/squadron had been preparing during the previous six to eight months for an ORI, a test of its ability to accomplish its wartime mission. This inspection was scheduled to begin on 11-12 August 1990. However, before a wing undergoes an ORI, it rehearses those events that are not accomplished on a regular basis. If a contingency had to occur, it could not have occurred at a better time in terms of readiness of the squadron.

There were very few aircrews on missions away from home station. Additionally, aircrews had been practicing wartime activities: quick generation of aircrews, donning chemical warfare gear, use of authentication documents, marshalling cargo, and engine running during on- and offloads. Safety concerns had been strongly emphasized during these preparations. Aircrew members were all current and qualified for their respective crew positions. All annual check rides due through September had been done. In short, the squadron was ready to go to war.

The first indication that the squadron would become involved in the events more than 7,000 miles away came on 4 August. The squadron mans an operations center (SOC) 24 hours a day, seven days a week. On this Saturday morning, the wing command post contacted the SOC and tasked the squadron to determine how many aerial-refueling, augmented aircrews the squadron could generate as soon as possible. Pilots qualified for aerial refueling have completed special training and passed an evaluation certifying their ability to refuel the C-5 during flight. The squadron maintained nineteen aerial-refueling qualified pilots. Augmented aircrews are determined by the number and qualification of aircrew members required for a mission. Regulations allow an augmented aircrew to continue to perform duties for a period not to exceed 24 hours. A basic crew is limited to 16 hours. An augmented crew includes an additional pilot, first pilot or higher qualified, and two flight engineers, first engineer or higher qualified. These requirements limit the total number of

aircrews a squadron can generate.

After recalling the operations officer and the aircrew schedulers to the squadron, we provided the command post the requested information. We stood by in the squadron to see if any additional tasking would be forthcoming, but after a couple of hours we released everyone. Surprisingly, the remainder of the weekend remained quiet. I had expected the wing to begin placing aircrews on a standby status, but this did not happen. The following Monday, everyone came to work as normal. Throughout the day I expected the squadron to be directed to begin generating aircrews, but the day came and went without any tasking.

Although Tuesday, 7 August, began normally, by midday we were beginning the largest airlift in history by generating more crews at one time than had ever been done. On that afternoon, we started to launch seventeen active and reserve aircrews in less than five hours. Although only two primary aircrews would be actually flying aircraft, the remaining aircrews would be deadheading on the aircraft. A deadhead crew does not perform any flying duties, but flies in a passenger status. However, a deadhead crew must accomplish many of the same ground duties as a primary crew in order to be able to perform primary flight duties on subsequent flights.

Normally, a squadron would alert one crew, maybe two crews at one time. A basic aircrew consists of two pilots, two flight engineers, three loadmasters, a crew chief, and on occasion,

three security policemen. An augmented aircrew adds an additional pilot and probably one more crew chief. Assembling seventeen aircrews would require processing over 150 crewmembers in the same amount of time a squadron would normally process one or two crews.

During a normal alert, each crewmember is called at his home and must report to the squadron within one hour. After arriving at the squadron, he must review the flight crew information file (FCIF) and flight crew bulletin (FCB), check his personal file folder for individual information, ensure the flight orders are accurate, and ensure his/her passport is in the aircrew publication kit. The aircraft commander then briefs his aircrew on the projected mission, making sure the crew knows its operational duties. Following the briefing, the pilots go to base operations to begin mission planning. Enlisted crewmembers pick up their weapons, order meals, and go to the aircraft to accomplish the preflight and complete the loading. Mission schedules allow for 4 hours and 15 minutes from alert to takeoff. A contingency requires additional steps. First, the wing intelligence officer must brief the crew on existing or projected threats for the mission. Secondly, the flight surgeon may have to inoculate crewmembers depending on the projected destinations. Finally, crewmembers must be fitted with chemical warfare gear and provided a survival gear bag. Accomplishing all of these tasks in the allotted time for only one crew is difficult, but completing these tasks for fifteen crews within the same time

period is almost impossible.

Upon receiving the alert notification, the three active and two reserve squadrons of the wing began to work together to ensure the crews were prepared to depart for a yet-to-be-determined destination. The two aircrews that would be flying the missions were alerted first. This sequence reduced confusion, expedited squadron processing, and started aircraft preflighting and mission planning as soon as possible. These two crews were processed through the squadron as quickly as possible. The remaining fifteen deadhead aircrews were divided into two groups. One group would have eight crews averaging nine crewmembers. The second group would have five crews. These two groups were alerted after the two primary crews, with a one hour delay between groups. Facilities in the squadron for receiving and briefing crews would not allow us to alert all deadhead crews at the same time.

Without proper planning and careful coordination, we would not have been able to launch the missions on time. After being tasked for the aircrews from the wing, the squadron commanders and operation officers met to develop a plan of attack. After determining the tasks and getting further clarification from the wing on unclear items, we went to work. Our goal was to establish a one-stop shop to consolidate as many required actions as possible. This would considerably reduce the confusion of having fifteen different crews trying to accomplish the same tasks individually at the same time. Instead of separate

intelligence, weather, and mission briefings, the squadron plans office developed a comprehensive briefing for each of the two groups. The plans shop also made each crewmember's authentication card available for review. The "one-stop shop" significantly reduced the time needed to get this information out to the crews. After the briefing, each aircraft commander had a few minutes to meet separately with his crew to provide any additional information he thought was pertinent.

The hallways of the squadron were marked off by aircraft commander's name. This ensured that each crewmember would know where to place his baggage and reduce the confusion caused by misplaced gear. Based on the limited intelligence available about possible destinations and the threat, higher headquarters imposed additional requirements that demanded close coordination with other agencies in the wing. Aircrews were to carry survival bags and chemical warfare suits. All aircrew members had to be armed, although normally only three crewmembers carry weapons. The squadron contacted the flight surgeon's office and tasked it to send personnel to inoculate aircrews with gamma globulin serum, an additional requirement from higher headquarters. We made arrangements for the life-support shop to deliver the survival bags and chemical gear to the squadron. As crewmembers arrived, they were instructed to get a survival bag and received a properly fitted chemical suit. Each person had to check the bags to ensure all items were there in the right quantity.

Inflight meals posed a different problem. Normal procedures

allow each crewmember to select a desired inflight meal, which he purchases. Since a normal crew consists of seven to twelve crewmembers, the inflight kitchen can easily prepare the meals before scheduled departure time. However, given the large number of crewmembers, the inflight kitchen could not prepare a wide variety of meal for that many. A compromise was worked out. All deadhead crewmembers would receive a frozen meal and a single individual would collect payment for all the meals. This procedure was used thereafter when a large number of deadhead crews were sent out together.

Transportation was the next major hurdle. Dover had limited capability to transport large numbers of crews at one time, while supporting other agencies on base. Normally, crews carry their bags on the bus, but this was impossible. To solve these problems, transportation provided two large passenger buses and a flat-bed truck to carry the crews and their bags to the aircraft.

The final requirement before going to the aircraft was to check out weapons. The squadron does not have an armory and stores its weapons at the Security Police. The operations center notified the Security Police's armory of the total number of weapons required. Since the squadrons did not own sufficient weapons, the security police had to arrange to borrow weapons from another agency in the wing. Further, there were not enough shoulder holsters for all crewmembers. Without a holster, crewmembers placed weapons in their flight suit pockets. This

practice caused a serious safety concern. Additionally, some of the holsters were made for 9mm weapons, but .38 caliber weapons were issued. Finally, weapon accountability was a problem. Normal procedures required each crewmember to sign a hand receipt for each weapon. A mass checkout of weapons had never occurred. We reached an agreement with the security police to let one person from each crew sign for the weapons and receive them in a weapons box.

Finally, the aircrews were ready to depart on these first two missions. The first two missions departed after their scheduled departure time. However, considering the short notice, large number of aircrews, and lack of experience--the delay was held to a minimum. Also, many lessons were learned about how to launch multiple aircrews with little notification.

INITIAL DEPLOYMENT

The next week remained hectic in the squadron and the wing. We continued to generate aircrews to support stage operation--airlift operations that change aircrews at predetermined locations but keep the aircraft on the move, a kind of Pony Express, except that riders--not ponies--are changed. Early on, we recognized that our peacetime operating procedures would not work for this kind of operation. When I left flying in 1982, stage operations were considered normal. Between 1982 and 1990, pilot retention problems led the Military Airlift Command (MAC)

to change its conduct of strategic airlift missions. Pilots separating from the Air Force reported the inability to plan ahead as a primary irritant. In an attempt to remedy this problem a crew was given a mission with a predetermined itinerary and an aircraft. The crew would keep the same aircraft for the entire mission. Whenever the crew stopped to rest, the aircraft remained on the ground to wait for them. Although this is not the most efficient use of aircraft, it did result in a firmer schedule for aircrew members. Although firm scheduling did not reduce the flow of pilots exiting the Air Force, it did help the morale of those who stayed.

Because stage operations had been discontinued, very few people were available with experience in setting up and operating them. Initially, this inexperience slowed us down. Although staging problems declined during DESERT SHIELD/STORM, they never wholly ceased; they continued to plague managers at every base and level. A major lesson was that no doctrine or airlift policy addresses the use of stages; nothing tells us how they should operate.

We also learned that the squadron commander or operations officer should accompany the first aircrew departing on the start of an airlift operation. He can ensure that the crews are taken care of and receive proper support as they transit the airlift system. Other units, along with airlift units, must also transit the same airfields as airlift aircraft enroute to the theater of operations. Transit bases can become saturated; their support

capability may be overwhelmed quickly. Although aircraft commanders are charged with ensuring the safety and welfare of their crew while on missions, these commanders may not have the time or rank to solve some of the problems that come up in an operation the size of DESERT SHIELD. The aircraft commander must get the same crew rest as his/her crewmembers. A squadron commander or operations officer can work the problems while the crew rests. He can be an agent for all crews, help the host base solve billeting and messing problems, and address the crews' operational problems.

DEPENDENT CARE

During the first week of DESERT SHIELD, I tried to ensure that each aircrew member left the squadron fully prepared to accomplish any mission he/she was called on to perform. This preparation included both equipment and intelligence information. With procedures firmly in place to take care of aircrew needs, my attention then turned to the family members that remained behind.

After the initial rush of activities, the three active duty squadron commanders decided to organize an open meeting for all interested family members. We scheduled the meeting one week after the first aircrews left on their missions. By this time we had a great deal more information and a better picture of the airlift operation. We were better prepared to answer their questions and relieve many of their anxieties. We also were able

to get representatives from the various support agencies on base to provide information on their legal, family support, and religious services.

To begin the town meeting, we gave a general overview of the airlift operation and the locations of aircrews. We explained that the difference between MAC's peacetime and wartime missions was the operational tempo. We tried to be as candid as possible, and the families appreciated this. One item did catch all three commanders by surprise. When we reiterated that everyone should have up-to-date wills and powers of attorney, the family members seemed to become very upset. We had wrongly assumed that everyone had a will and knew about powers of attorney. It took us several minutes to explain that this particular operation was not the reason that they should know about these matters. Many of the spouses either did not have wills or they had not been updated. As a short term solution, we arranged with the judge advocate general's (JAG) office to have lawyers available around the clock to make out wills for aircrew members as they returned from missions. Since aircrews were only given twelve hours crew rest before being alerted for another mission, it was imperative to have a lawyer readily available. During the next few weeks, the JAG was kept quite busy making out wills and arranging powers of attorney. As a long term solution, I ensured that each new person in the squadron was personally briefed and learned how to get a will established. I also started a quarterly newcomers briefing and an open house for spouses of new squadron members.

During this briefing, spouses received information on wills and powers of attorney.

The toughest question that the squadron had to answer during the entire operation was "When is my spouse coming home?" When aircrews departed Dover, they belonged to 21AF, not to the wing or squadron. We tried to explain to the spouses how the airlift system worked and why it was not possible to predict accurately when an aircrew would return. But our inability to give a more precise answer only frustrated the families more. Some aircrews would go out and return in two to four days while others would be gone for over two weeks. This inconsistency haunted us throughout the operation. The only thing I could do as a commander was to be patient, ensure that my people who worked in the SOC were supportive when upset spouses called the squadron, and work to educate the families on the capabilities of the squadron to locate particular aircrews. In the spirit of Total Quality Management, we treated families as our customer and tried to align the customer's needs with our capabilities. This seemed to be the best solution to the problem.

AN EARLY CRISIS

Before the end of August, our first major crisis occurred. I had been at home for only a short time when I received a phone call from my operations officer. He asked if I had seen the news regarding the crash of a C-5 in Germany. I had not. We decided

to return to the squadron's operations center to prepare for the questions that we knew concerned families would soon ask. Before returning, I called the wing command post to see if they had any more information. They confirmed there had been a crash but had no information regarding which wing's aircraft or aircrew was involved.

Shortly after I reached the squadron, I received a call from the wing's deputy commander for operations. He confirmed that the crash did not involve a Dover aircrew. The news of the crash was very sad news for the airlift community, but we were glad it did not involve one of our aircrews. My staff and I debated whether we should call all spouses or just wait for them to call the squadron to give them the information on the crash. We decided to call only the spouses of aircrews away on missions. We determined that if they had seen the news on TV, our calling would relieve their fears. If they had not seen the news, then we would get the facts to them before someone else called or they saw it on TV. Our decision to call turned out to be the right one. I received many thank-you's later from both spouses and aircrew members for taking the time and showing this concern for the welfare of their families.

Although this particular accident did not involve any of my squadron's people, I am not sure that we were prepared to deal with a major disaster. Notification of a member's death is difficult, but mass casualty notifications present a whole new set of problems. These range from the timing of the notification

to organizing the right people to perform the notification. The one obligation I feared most during my tenure as commander was having to notify a family that one of their loved ones would not be returning from a mission. Luckily, I did not have to perform this task.

One of the lessons learned from this experience was that many of the family members did not know how they would be notified in case of the death of a military member. Some thought they would receive a phone call. After this accident, we made sure that everyone understood that a uniformed officer would contact them in person in the event of a death. There would be no phone calls from Air Force officials. Armed with this knowledge, spouses were better able to handle prank calls that periodically occurred throughout the conflict.

A second significant event occurred in September. I had just returned from my first DESERT SHIELD mission and was processing through the squadron operations center (SOC). As I was preparing to leave the squadron, I received a call from the Delaware State Police. The caller informed me that the son of one of my flight engineers had been killed in a motorcycle accident. Since I was relatively new to the squadron, I had not yet met this family. I soon found out how valuable squadron family support can be. The operations officer began the process of trying to locate the flight engineer and having him notified. We directed that the aircraft commander be told; then he would notify the flight engineer. The aircraft commander would also

make arrangements for the engineer to return on the next available flight to Dover. The chief flight engineer and I then went to express our condolences and to provide any assistance the family needed. By the time I arrived, several other squadron members and their wives were already at their house. This was a very difficult time for the family, especially since the father was away. I realized that there was nothing I could say that would help overcome their sorrow, but I found out that just being there provided support they needed. Before I left, the father called from Torrejon Air Base in Spain. This conversation offered considerable comfort to the wife. He returned to Dover the next afternoon. We met the aircraft, expedited his clearance through customs, and drove him to his home. This horrible event highlighted for me the need to have a strong family support system.

We also learned how expeditiously the command and control system was able to locate and return an individual in the event of an emergency. Many times during both DESERT SHIELD and DESERT STORM we had to exercise the system to locate an aircrew member because of an emergency at home. In over 95 percent of the cases, the member was located and had returned our phone call within 1 to 2 hours. Additionally, when circumstances required it, they were back at Dover within 24 hours. This response is remarkable given the large number of aircrews and aircraft from several different wings in the airlift system during this time. In one particular case, the crewmember was enroute to Saudia

Arabia. He had to complete his flight to Saudia Arabia, spend 4 hours on the ground, fly 8 hours back to Germany, and catch an 8 hour flight back to Dover. He was still able to return is slightly over 24 hours. I always had extreme confidence that, throughout the airlift system, we could locate members quickly. I felt confident in reassuring family members of this capability. Our people may have been a long way from home, but we could get them back home in a hurry.

The problem of tracking aircrews as they transit the airlift system is historical. The system is tuned to track cargo and aircraft, not aircrews. The biggest complaint of spouses is that the squadron does not know the exact location of an individual crew at a given point in time. Often the squadron's best source of information concerning crew location comes from the spouses. Technology today allows aircrew members to call from just about anywhere in the world. This was even true for crews transiting Saudia Arabia. We therefore encouraged all spouses to notify the squadron when they gained such information so we could pass it on to other families that had spouses on the same crew.

On numerous occasions, the command post notified the squadron that a certain aircrew was inbound. Then the squadron notified the family. After landing, the squadron discovered that a different aircrew was onboard. The squadron then had to call the family back to tell them that their crewmember had not returned home. Such mix-ups made the squadron look bad and put

the families on an emotional roller coaster ride. There have been numerous attempts to track aircrews better, but this problem has not been a major concern on the strategic level. Given today's technology, AMC could develop an accurate system for tracking aircrews.

OPERATIONAL CONCERNS

During the first month of DESERT SHIELD, it became evident that aircrew members were going to be flying large numbers of hours each month. Air Force Regulation 60-1 limits an aircrew member to 120 hours in a 30 day period and 330 hours in a 90 day period. Each mission from the CONUS to the Middle East and back required an average of 30-35 flying hours in as little as 4 days. At this rate, a crewmember would quickly reach the limit on flying for 30 days. During peacetime, an aircrew member would average only 25-40 hours per month. In the history of the C-5 force, we had never confronted the issue of exceeding the flying hour limit, so we had no method for real-time tracking of flying hours in the squadron. By the time we realized this was not going to be a short airlift operation, we were behind the power curve.

One of our talented operations NCOs developed a software program to track each squadron member's flying time. We had to go back and retrieve from each mission history previous flying times, beginning with August, to update the program. From that

time on, each crewmember received an individual sheet that displayed his 30-, 60-, and 90-day flying hour totals on a day-to-day basis. While on a mission, the crewmember was responsible for tracking his/her flying time. Upon returning to Dover, the operations center would update the computer and the process would begin all over again. The flying hour summary was also used by the resource managers and the operations officer to help manage the generation of aircrews. We avoided assembling a crew that was limited by one crewmember's flying hours. The most restricted crewmember limits the entire crew. For example, we would not put a pilot who had only 40 hours remaining in a 30 day period with other crewmembers who had 70 hours left. Three solutions provided relief for the flying hour problem: mobilization of the Reserve Component, activation of the Civil Reserve Air Fleet (CRAF), and establishment of a pilot pool.

RESERVE MOBILIZATION

The airlift community has a unique relation with the Reserve Component called Associate Reserve. These units do not own any aircraft but fly the same aircraft as the active duty aircrews. Currently, each active duty C-5 wing has an associate reserve wing that supplies 50 percent of the aircrews. In addition to the associate units, 40 C-5s belong to organic Reserve and Air National Guard units. This means that more than half of the nation's strategic outsize airlift capability is in the Reserve

Component. The large demand for the rapid deployment of forces to Saudia Arabia made it imperative to mobilize the reserves. Mobilization is a difficult decision for the national leadership because it causes disruptions. President Bush authorized the activation of the two reserve associate squadrons at Dover on 22 August 1990. In my opinion, activation should have occurred sooner. Many of the active duty aircrews were already near their flying hour limit by the time the reserves were activated and fully engaged in the airlift system. Even though many reservists had volunteered to fly missions before they were activated, we still felt this crunch.

After DESERT STORM, the Joint Universal Lessons Learned System (JULLS) identified Reserve mobilization as a problem. It observed that USTRANSCOM requires immediate access to reserve units and individual mobilization augmentees (IMA) prior to Presidential Selective Reserve call-up. This access is critical due to the exigencies of strategic transportation and deployment operations. Without early reserve augmentation, now dependent upon Presidential Selective Reserve call-up, the ability to deploy major combat forces is extremely limited. Reliance on volunteers or reserve units undergoing annual training is not acceptable when time is critical. USTRANSCOM recommended institutionalizing the Ready Mobility Force (RMF) program. They also recommended Congress approve a formal change to Title 10 U.S. Code, Article 673B, which would permit a separate, early Reserve call-up of 12,000 personnel. Activation authority would

be vested in the Secretary of Defense, who would then have a means to prime the strategic mobility system. The activation of an RMF by SECDEF would alleviate the political reluctance associated with activation of the Presidential Selective Reserve. It would also solve the problem of relying on volunteers and the subsequent problems of unit effectiveness, tour duration, and unit cohesiveness. This recommendation is currently being worked by the JCS; the Services are coordinating their respective concerns on the issue.¹

CRAF ACTIVATION

On 17 August 1990, USCINCTRANS activated Stage I of the Civil Reserve Air Fleet (CRAF). Stage I provides a capability of 3 million-ton-miles per day (MTM/D) of cargo and 13.2 million-passenger-miles per day (MPM/D) within 24 hours to USTRANSCOM. Stage II is considered an airlift emergency and must be activated by the Secretary of Defense. It provides an additional 2 MTM/D of cargo and 33.8 MPM/D of passenger capacity. SECDEF activated Stage II on 17 January 1991, the beginning of DESERT STORM.²

Activation of the CRAF can help preserve the organic capability of the active force, but two problems were identified with the current allocation of CRAF aircraft within the three stages. Stage I and II of the Civil Reserve Air Fleet need to be reallocated to place more cargo and narrow-body aircraft into these stages. Most of the Stage I/II aircraft are primarily

passenger-capable. Seventy-two of the 99 convertible aircraft are in Stage III. Narrow-body aircraft can operate into shorter airfields. They require less sophisticated ground handling equipment and therefore increase system efficiency.

Because of the misallocation programmed into Stage II and III mobilization, decision-makers face a good deal of political flak for mobilizing a fleet that currently offers only a marginal increase in cargo capability. Since the Stage I activation increases overall organic capability less than ten percent, decision-makers are reluctant to use CRAF. The tendency is simply to "make-do" until military necessity forces a final decision. This delayed decision, in turn, affects the cumulative mobility effort. Due to the political magnitude of the decision Stage III was not activated during DESERT STORM.³

JULLS also observes that the CRAF must be put into the flow early in order to conserve MAC organic lift. FORSCOM identified this problem. JULLS recommended that USTRANCOM receive airlift requirements from supported/supporting commands to justify early activation of CRAF. JULLS also stated that USTRANCOM should look into legal/political ramifications of using foreign flag carriers in contingency operations which could increase capabilities without further U.S. mobilization.⁴

PILOT POOL

Even after the Reserves and CRAF were activated, the heavy

demand for strategic airlift continued to press crewmembers quickly to their maximum flying time. Twenty-first Air Force, the numbered Air Force with operational control of the airlift operation, decided to establish a pilot pool at stage locations in Torrejon Air Base in Spain and Rhein Main Air Base in Germany. This concept had never been tried before. The missions from Europe to the Middle East required an augmented aircrew, because CENTCOM would not allow aircrews to stage in the area of responsibility (AOR). Crew duty days ran from 22 to 27 hours. However, the return to CONUS from Europe did not require augmented aircrews. Therefore, 21AF decided that the optimal use of pilots would result from establishing a pool of pilots who qualified as first-pilots or higher. A first pilot normally has several hundred hours in the aircraft and has passed a check-ride to validate his/her qualification. First-pilots during wartime may be administratively upgraded to aircraft commander.

The commanders of the active duty squadrons raised several concerns about this concept. First, they questioned the safety issue. Squadron commanders and operations officers are responsible for ensuring the right mix of aircrew members in a crew. This is assured by a system of checks and balances. Unit standardization sections check crewmembers at least once each year to ensure they are performing at the level of their qualification. Secondly, resource managers review the proposed crew setup to ensure the right mix of experience is represented in a given crew. Finally, the operations officer reviews the

entire crew list to ensure the entire crew has the right mix of experience and qualification across all crew positions. He then signs the crew orders, thereby validating that the aircrew is current, qualified, and safe to perform the assigned mission. This process has led to the excellent safety record of the C-5. But a pilot pool would change this process. Although the core crew members would be generated at home station, a stage crew manager would be placing an unknown pilot on each crew to participate in the most difficult missions of the airlift operation. In theory all pilots that are first-pilot qualified are equal. In actuality, this is not true. A pilot who has cross-trained into the C-5 from another weapon system may receive a first pilot check-ride at Altus Air Force Base. He would then have only 16 hours in the aircraft and would never have flown an airlift mission. Another pilot may have several hundred hours in the aircraft and may have flown numerous missions worldwide--and he may be just a copilot. However, under the pilot pool concept, the copilot with numerous hours could not enter the pilot pool but the inexperienced first pilot could. Without detailed knowledge of each pilot's experience, a relatively inexperienced crew could be assembled--a risky situation. I believe the Air Mobility Command should review its policy of allowing new pilots transitioning to the C-5 to receive a first-pilot or higher evaluation from the initial qualification school at Altus AFB, Oklahoma.

Secondly, the active-duty commanders questioned who would be

held responsible if indeed an accident involved aircrew error. In theory, the individual who signed the aircrew orders is responsible. With the pilot pool, two different sets of aircrew orders are signed by different people--one for the basic crew and one for the pool pilot. The pilot pool concept circumvented established and time-tested procedures that have ensured that the right people are put together to form an aircrew.

AIRCREW CONCERNS

After the first couple of weeks, the airlift operation began to settle down into a pattern. However, this did not mean that there were no problems. As the first aircrews began to return, we began to get a better picture of what to tell the follow-on aircrews. In fact, our best intelligence information came from the returning aircrews. We learned how the stage locations were handling the billeting and messing of the numerous aircrews passing through their stations. We learned the air routing instructions and the command and control procedures that CENTCOM had developed to handle the heavy airlift flow into the AOR. Other critical issues included fuel availability, maintenance capabilities, messing facilities, air traffic control facilities and off-load times at destination airfields. These matters were important because such information helped aircrews prepare adequately for each mission. For example, air traffic controllers in Saudia Arabia would make inbound aircraft begin

to descend at a point much sooner than normal. This practice required putting more fuel and less cargo onboard the aircraft when departing from Europe. Without this information, an aircrew could experience a fuel shortage and have to divert or stop short of their original destination. Such rerouting could cause problems related to maximum number of aircraft that can be on the ground (MOG) at one time due to ramp space limitations. It could also prevent cargo from reaching its destination on time. As the squadron received pertinent information, it was posted on a special bulletin board for aircrews to read prior to departure. In some cases the information was included in the flight crew information file that each crew carried in its mission kit.

Not long after DESERT SHIELD began, MAC approved operating the C-5 at its maximum wartime weight of 840,000 pounds. During peacetime, the aircraft had a maximum inflight weight of 769,000 pounds. The 70,000 pounds increase adversely affected the performance of the aircraft. None of the pilots in my squadron had ever flown the aircraft above the peacetime maximum weight. Additionally, we did not train pilots and flight engineers for wartime weights during simulator or local proficiency missions. No special instructions or precautions are offered in the C-5 Dash 1--a book that describes all the systems onboard an aircraft and normal as well as emergency procedures for operating the aircraft. All the squadron commanders and operations officers, as well as the wing standardization and evaluation crewmembers, were concerned. If an aircraft lost an engine on takeoff at that

weight, the pilots might not know how to handle the emergency in order to recover. We voiced our concerns through the wing and numbered Air Force to MAC. Although we did not overturn the decision to operate at emergency wartime weights, we did get MAC to provide aircrews more additional information on what to expect--including special procedures for emergencies. Luckily, we did not have any incidents involving aircraft at these gross weights. Simulator training missions now include practice with losing an engine on takeoff while operating the C-5 at these gross weights.

We remained concerned throughout DESERT SHIELD and DESERT STORM that Saddam Hussein would use chemical weapons. Even though the aircrews possessed protective gear, the threat of chemical weapons posed many problems. As DESERT STORM began and Iraq launched several SCUD missiles, we had two major concerns. First, we were concerned about the aircraft enroute to the AOR. With the allowable cargo loads (ACLs) and length of flights from Europe, fuel margins were limited. Aircrews would put on as much fuel as possible in case they had to hold or fly to an alternate airfield. However, alternate airfields not subject to SCUD attacks were a long distance away. If an airfield came under attack just prior to their arrival, the only option would be to hold aloft and await an "all clear". This situation occurred several times during DESERT STORM. To their credit, aircrews remained flexible and exercised outstanding judgment when faced with these circumstances.

Second, we were concerned about aircraft on the ground in Saudia Arabia offloading during an attack. Aircrews were given the current status of the airfield before landing. Depending on the threat, aircrews would don protective clothing prior to landing. When they landed, local authorities provided the aircrews with the location of the closest shelter in case they came under attack while on the ground. The most hazardous period on the ground came when the aircraft was in the process of taxiing out to the runway to take off. There was little warning time of an attack, and it took almost 20 minutes to taxi to the end of the runway for takeoff at Dhahran. Crews preparing for takeoff would not have enough time to seek shelter or to take off before a SCUD hit. The chance that the SCUD would hit the aircraft was remote. However, if it contained chemicals, the aircraft would at least be contaminated by an impact in the vicinity of the takeoff.

A secondary problem was noted concerning protective chemical suits. Although all aircrew members had protective gear, passengers did not. This deficiency needs to be addressed at the DoD level. In one instance, passengers were boarding a C-5 to depart the AOR when the airfield at Dhahran came under a SCUD attack. The crew and passengers evacuated the aircraft and went to a shelter. The aircrew members were equipped with suits, but the passengers had none. Some of the passengers were children. One aircraft commander reported that he could not in good conscience put on his protective gear while a child had none.

In summary, if airlift aircrews and support people had had to operate in a chemical environment, the airlift capability would have been severely impaired for several reasons. First, the protective suits are cumbersome and hot, making it difficult to fly an aircraft. Second, contaminated aircraft pose serious problems for locations that must provide decontamination. Finally, airlift aircraft are highly vulnerable during ground operations.

HIGHER HEADQUARTERS REPORTS

It became evident early on that we had a greater demand for aircrews than there were aircrews available. Even though we cancelled all local proficiency training and deleted all aircrew annual training requirements, there still were not enough aircrews. 21AF began requiring Dover to provide daily the estimated number of aircrews it had available for the following day. We had to account for each aircrew member by noting how many were on missions, in crew rest, in pre-mission crew rest, on temporary duty at other locations, and performing squadron duties. While this data helped them plan the missions and keep the airflow moving more effectively, the extra reporting requirement caused a great deal of resentment among the squadron commanders. We felt that higher headquarters was trying to micromanage the aircrews and did not trust us to generate as many crews as possible. This requirement persisted throughout DESERT

SHIELD and DESERT STORM.

This daily reporting requirement was added on to our weekly status of resources and training systems (SORTS) reports to higher headquarters. SORTS provided essentially the same information. JULLS identified SORTS reporting during the crisis as cumbersome and as unduly burdensome to units. USCENTCOM recommended changing JCS Pub 1-03.3 (SORTS) to require units deployed during a crisis to replace normal SORTS reporting with modified operational reports. USCENTCOM also recommended changing the Joint User Handbook - Message Text Format (JUH-MTF) as necessary to incorporate changes to message formats.⁵ I believe that the recommendation should be further expanded to include airlift units involved in the a contingency. If airlift squadrons are required to report to higher headquarters on a daily basis as in DESERT SHIELD/STORM, then the SORTS reporting should be deleted.

SQUADRON MANNING

Higher headquarters exacerbated the problem of generating aircrews by diverting already scarce pilots and loadmasters away from flying. Some were deployed to work at overseas command posts; some were assigned to assist airlift control elements (ALCE) with aircraft loading at other CONUS onload locations. To compute airlift capability, planners consider ninety percent of all authorized aircrew members available. The ten percent

decrement allows for people on leave, non-flying TDY, and DNIF--a medical status that prevents a crewmember from flying until the ailment is corrected and a flight surgeon authorizes a return to flying duties. However, during a major contingency, overseas locations and ALCE units depend on augmentation with aircrew members. In fact, the home wing depends on augmentation from the flying squadrons to work in their command posts and wing support offices. During DESERT SHIELD/STORM the squadron had a much larger percentage than ten percent performing duties other than flying. This dual manning policy needs to be addressed by higher headquarters to ensure that a realistic estimate of our airlift capability is presented, especially since aircrew members are required to perform duties other than flying.

TRAINING

Training became an early concern. Early in DESERT SHIELD, all local training flights were cancelled, as was simulator training. Monthly, quarterly, and semi-annual training requirements were deleted. Eliminating these routines allowed for maximum aircrew and aircraft generation. However, without regular practice of emergency procedures, safety risks increased. Increasing flying time for aircrews increased their normal-procedure proficiency, but it did little to reinforce their knowledge of and ability to handle emergencies. To overcome this deficiency, all supervisors encouraged their people

to continue to study their operating manuals and to put safety first. Squadron standardization pilots observed as many missions as they could and issued tests for each crew position to reinforce the need to remain in the books. The resource managers, operations officer, and I put out crew information letters that addressed areas of particular safety interest. We also flew numerous missions to observe the crews. We continued to hold squadron safety meetings monthly to ensure crews were kept appraised of hazards that they might face during the airlift operation. I believe all these actions played a major role in compiling the excellent safety record that the squadron achieved during DESERT SHIELD/STORM.

Another problem concerning training surfaced after DESERT STORM ended. I have noted above that all local proficiency training was cancelled. However, pilots who were ready to upgrade to the next higher crew position were upgraded throughout the operation as time permitted. Over the course of DESERT SHIELD/STORM which lasted eight months, pilots accumulated an average of 600-800 flying hours. This average represented two years worth of peacetime flying. I was pleased with the experience level of the 9th ALS following DESERT STORM because of the number of pilots we upgraded and the experience they received. However, after the war ended, the Air Force ended the stop-loss policy it had instituted on 1 September 1990 to prevent the loss of pilots during this critical period. Under Presidential authority granted by 10 USC 673c, stop-loss suspends

promotion, retirement, and separation laws. However, this policy is limited to members of the Reserve Component serving on active duty under 10 USC 672, 673, or 673b. Stop-loss ended at the same time the Air Force began downsizing--when all pilots were offered a chance to exit the Service with an early release. Because of these two policies, we lost more than forty percent of the aircraft-commander and higher qualified pilots within six months. In essence, instead of being ahead two years in training we quickly fell three years behind. This deficit included loss of the two years DESERT SHIELD/STORM experience and the eight months without local training for the younger pilots. As the redeployment slowed down, so did the flying hours. We found it hard to recover from the losses of aircraft commanders--especially these qualified for aerial refueling (AR). In fact, we were authorized nineteen AR pilots, but we could maintain only twelve or thirteen AR-qualified pilots. This problem remained throughout the time I was commander, despite increased emphasis in this area.

The stop-loss, early out, and training policies also affected the enlisted crew positions of flight engineers and loadmasters, but to a much lesser degree. The enlisted force is a much more stable than the pilots. Even though a few loadmasters and flight engineers did exit the Air Force, the numbers were relatively small.

DESERT STORM

On 17 January 1991, the air campaign of Operation DESERT STORM began. I was sitting at home just beginning to eat dinner while watching CNN when the first bombs fell on Baghdad. My first concern was for the aircrews the 9th ALS had in the system. I quickly had many questions--but no ready answers. Many of these questions would not be answered until these aircrews began returning. I also knew that, with the beginning of the air war, family anxieties would again increase.

DEPENDENT CARE II

Given the success of the first town meeting that the three squadrons conducted at the beginning of DESERT SHIELD, we decided to hold another one just after the start of DESERT STORM. Although attendance was not as large as at the first, this meeting was still very productive. The families were concerned for the safety of their spouses, especially after Iraq had used the SCUD missile and threatened to use chemicals. We were able to reduce their anxiety once again by explaining to them that crews were only exposed for a very short time while offloading their aircraft and that crewmembers had their own chemical gear for protection.

Surprisingly, the 9th Airlift Squadron experienced very few

family problems. Throughout both operations we successfully worked those emergencies that did arise because of the resource managers and their proactive management of the situation. The resource managers continuously checked in on families when the spouse was out on missions. They ensured the families knew they could call the squadron any time needed help of any kind. We face a number of problems, from deaths in the family to problem children to household fix-it problems. We were always able to return an aircrew member from a mission in a timely manner, if this was necessary.

ADMINISTRATIVE PROBLEMS

Although DESERT STORM officially ended on 28 February, the airlift operation continued. For the next six to eight months the squadron continued to generate aircrews at a high ops tempo. However, the end of the war brought a new set of challenges that we did not have the foresight or experience to prepare for.

One of the first requirements was to prepare nomination packages for those crewmembers who had participated in DESERT SHIELD and DESERT STORM. USCENTCOM was in charge of determining the prerequisites for decorations and also had the approval authority. The original requirements addressed those individuals that had been assigned in the area of responsibility. Since my aircrews had not been assigned to, but had only transited the AOR, they were not eligible for the Air Medal or Aerial

Achievement Medal. A subsequent list of prerequisites did address airlift aircrews. A person was eligible for an Aerial Achievement Medal if he had flown 25 missions in support of DESERT SHIELD. He was eligible for an Aerial Medal if he had flown 10 missions in support of DESERT STORM. Although this sounds like a go/no-go requirement--be easy to determine--it was not. First, there was a lot of confusion on what constituted a mission. It took several weeks to get this clarified by higher headquarters. The second problem was in-house. We had not tracked the number of times each crewmember had transited an airfield in the AOR. The only way to get this information was to take the individual mission histories and manually go through each one. Five people spent several days tabulating for each crewmember in the squadron the number of medals he was eligible for. If we had known in the beginning that this would be a requirement, we could have developed a computer database to track each crewmember during the course of the airlift operation. This record-keeping would have saved many manhours and reduced the time it took to get the people the recognition they deserved.

Congress authorized DESERT SHIELD and DESERT STORM participants to receive imminent danger pay and a tax exemption. Timely documentation of DESERT SHIELD and DESERT STORM missions would also have helped us to determine who was eligible for these. To qualify for a one-month basic pay tax exemption, a person had to transit the AOR for any part of one day during a month. To qualify for imminent danger pay, a person had to be in

the AOR for a minimum of five days during a month. Since imminent danger pay was not enacted at the beginning of DESERT SHIELD, but was made retroactive, the squadron had to go back and determine who qualified for the pay by reviewing mission histories.

The tax exemption provision continued after the end of DESERT STORM. The accounting and finance office required the squadron to validate which individuals qualified for a tax exemption. However, the finance people did not know how to implement this policy. Many aircrew members' monthly payments were wrong. In some cases, no tax was withheld from an officer's pay, instead of exempting the first \$500.00. In other cases, the taxable income was decreased, but the same amount of tax was withheld. These errors made tax filing more difficult. Many of the W-2s were in error. The problem was not solved by the end of the war. The only solution left to the squadron was to inform the aircrew members that the problem existed and to advise them to maintain accurate records for filing their tax returns.

The final postwar problem was to recognize those squadron members who were not aircrew but who had performed in an outstanding manner to support the our wartime mission. In the 9th AS, two officers and eight enlisted personnel provided administrative support and worked round-the-clock, seven days a week in the SOC to alert aircrews and ensure that aircrews had everything they needed to perform their mission. Unlike the aircrews, they received no TDY funding and did not qualify for

their morale during the operations, because they were entitled to few incentives when compared to the aircrews. However, these individuals worked as hard as the flyers. After the war, I was able to get only one person an achievement medal. The other requests were turned down. I believe this was unjust. Without their support, the aircrews could not have done their job.

Squadron Accomplishments

The 9th MAS was programmed to fly 4,402 hours from 1 January 1990 to 31 December 1990. However, the squadron flew a total of 9,495 hours, or a record 215 percent of programmed flying time. More than 6,200 of these hours were flown in the last five months of the year as a result of Operation DESERT SHIELD. The entire airlift operation airlifted

91,000 troops and 72,000 tons of cargo into the Arabian peninsula in a mere thirty days--a record breaking effort. All told during the buildup and forty-three day war, 111 C-5s, 227 C-141s, and 117 commercial aircraft activated by the Pentagon ferried 494,000 troops and 577,000 tons of cargo to the Gulf region.⁶

During DESERT SHIELD, the 9th MAS generated over 225 aircrews and more than 40 crews for DESERT STORM.

CONCLUSION

The two years I spent as commander of the 9th Airlift Squadron were the most challenging and rewarding of my career. As I assumed command, I told the squadron that I would work to remove impediments that prevented or hindered my people from doing their jobs effectively and efficiently. I tried to carry out this objective during my tour as commander. Throughout Operations DESERT SHIELD and DESERT STORM aircrews remained highly motivated, even though they worked many long days and sometimes had inadequate support. They knew they were contributing meaningfully to the war effort. Although they may have complained about the conditions in the system, they never complained when told they could spend only 12 hours at home before being launched on another mission.

Operations DESERT SHIELD and DESERT STORM highlighted many deficiencies in the airlift system. Even so, the Military Airlift Command proved it could meet the airlift requirements in a timely manner. Many of the lessons learned have been identified and are being worked out by different agencies today. This paper can be used by future squadron commanders as a guide. It may help them prevent some of the mistakes I made during this operation.

APPENDIX I
SUMMARY OF LESSONS

STRATEGIC LESSONS

1. The Air Force needs to develop a wartime airlift employment doctrine. The doctrine should establish an airlift system with staging operations and specify the role of the Reserve Component as part of the nation's airlift capability.
2. Since the Reserve Component possesses over 50 percent of the nation's strategic airlift capability, the Secretary of Defense needs the selective authority to activate units during the initial stage of a contingency to prime the strategic airlift system. This requirement should be decoupled from the Presidential 200K call-up.
3. Stage I and II aircraft of the Civil Reserve Air Fleet need to be revised to place more cargo and narrow-body aircraft into these stages. Most of the Stage I/II aircraft are primarily passenger capable. The best way to address this problem is to absorb cargo fluctuations with convertible aircraft--preferably civilian--to preserve the organic aircraft flexibility.

OPERATIONAL LESSONS

4. Pilot pools were a new concept. If this concept is to be used in future airlift systems, the Air Mobility Command needs to evaluate its policy of allowing pilots new to the C-5 weapon system to receive a first-pilot or higher qualification checkride from their initial training at Altus AFB. During peacetime, these pilots have the time to season in the aircraft; but during a wartime operations tempo, training is either cancelled or severely reduced. This change prevents new pilots from becoming proficient in all the duties and maneuvers they should be able to accomplish as a first-pilot.
5. Many agencies outside the squadron depend on aircrew members to augment them during contingencies. These duties are not taken into account when determining airlift capability. This problem of dual-manning needs to be addressed by higher headquarters.
6. Given today's technology, AMC needs to develop a system to accurately track airlift aircrews. The airlift community does not track aircrews while on missions with any degree of accuracy. This has been a historical problem.
7. SORTS reporting during a crisis is cumbersome and unduly burdens units. USCENTCOM recommended JCS publications to require units deployed during a crisis to replace SORTS reporting with modified operational reports. This

recommendation should be expanded to include units such as strategic airlift squadrons who do not deploy, but who actively support the contingency.

8. In the future, headquarters must ensure aircrews are prepared to operate in certain environments prior to approving changes to existing operating restrictions. During the airlift operation, the Military Airlift Command (MAC) authorized the C-5 to operate at its maximum wartime operating weight of 840,000 pounds. Peacetime inflight weight limit is 769,000 pounds. A 70,000 pound increase has an adverse impact on the performance of the aircraft. Additionally, aircrews had not practiced in the simulator nor had they been given any specific procedures to handle the aircraft in case of an emergency.

TACTICAL LESSONS

9. Following news of an aircraft accident, the commander must decide either to call squadron family members or wait for them the phone the squadron to inquire as to the status of squadron involvement. I found that making the call was welcomed by most family members and helped reduce the anxiety and confusion that exists with the crash of an aircraft.
10. Generating a large number of aircrews requires close coordination with multiple wing agencies. The squadron needs to develop a checklist of items that must be accomplished prior to the arrival of aircrews to the squadron. A single point of contact must be appointed to supervise checklist accomplishment.
11. In conjunction with a checklist, the squadron must establish as much of a one-stop-shopping arrangement as possible. This allows the aircrews to be briefed by intelligence, operations, and weather; to order meals; to pick-up survival and chemical bags; to arrange transportation; to get inoculated; and to get aircraft and load information at one location. The location will depend on individual base facilities.

12. Squadron commanders or the operations officer should fly on the first mission departing on an airlift operation. They can assist in solving those problems in the systems that aircraft commanders do not have the time or rank to solve.
13. Town meetings should be called on a regular basis during contingency operations. These meetings are an excellent method of getting information out to family members. A town meeting allows family members to voice their concerns, ask questions and reduce their anxieties.
14. One result of the town meetings was the realization that many families did not have wills and were not aware of the need for power of attorneys. Commanders should emphasize this requirement during in-briefing of new squadron members. It should also be included in the inprocessing checklist.
15. A squadron should develop a checklist of required actions to ensure that key people are properly notified and key actions not inadvertently missed. Squadrons are not prepared to deal with an aircraft accident that involves loss of life.
16. A corollary to item 15 involves knowledge of how the Air Force performs casualty notification. Most squadron family members did not know that they would receive a personal visit from a designated Air Force officer, rather than receiving notification by phone. All Air Force members need to be indoctrinated on these procedures. These members should in turn brief their family members.

17. Squadrons need to be prepared to track individual flying hours at the beginning of an airlift operation. It is difficult to retrieve detailed flying histories. The flying time summaries can be used by squadron resource managers to ensure aircrews have an optimum match of crew members.
18. Airlift squadrons should maintain historical data from the first day of a contingency operation. They should track number of missions and flying hours of each aircrew member. Keeping records will prepare the squadron to document the accomplishments of the squadron and to get individuals the recognition they deserve. Ongoing tracking will greatly reduce the workload and time required to accomplish these tasks retroactively.

APPENDIX II

SQUADRON HISTORY

(Copied from a Change of Command Program)

The 9th Airlift Squadron's long and colorful airlift history dates back to the pre-World War II era.

Originally constituted as the 9th Transport Squadron on 1 January 1938 and activated on 1 December 1940, the unit was assigned to the 63d Transport Group at Patterson Field, Ohio, performing replacement training in the C-33, C-34, and C-39 aircraft.

During World War II, the unit transported cargo and personnel for the Mobile Air Depot in the United States and Caribbean. It was redesignated the 9th Troop Carrier Squadron (TCS) on 1 May 1942. It also trained with paratroopers prior to moving to Camp Williams, Wisconsin, on 24 May 1942. The unit practiced glider towing in Arkansas, California, and New Mexico while flying the C-50 aircraft.

The 9th TCS moved to Hickam Field, Hawaii, early in 1944 and became part of a joint Navy/Army Air Corps transport group. Flying the C-46 and C-47 aircraft, the unit was assigned the mission of carrying cargo, mail, and passengers, as well as air evacuation of wounded. The 9th TCS distinguished itself by air-dropping gravely need blood, ammunition, and weapons to Marines on Iwo Jima and later by supporting the fighting on Okinawa. It continued to fly spaying missions and transport routes after the war from the islands of Saipan and Guam.

The unit was deactivated on 15 Oct 1946, but was reactivated in the Air Force Reserve on 27 June 1949. The unit was again deactivated at Altus Air Force Base,

Oklahoma, in 1951, then reactivated on 19

March 1953 to fly C-124s from Donaldson Air Force Base, South Carolina. It participated in maneuvers, exercises, and the airlift of personnel and cargo to many points throughout the world. It helped evacuate Hungarian refugees, supported the construction of both the Eastern Missile Test Range and the Distant Early Warning Line sites in the Arctic.

On 1 July 1957, the 9 TCS was transferred from the Tactical Air Command to the Military Air Transport Service (MATs). In January 1963, with the closing of Donaldson AFB, the squadron was again deactivated.

The squadron was reactivated on 13 November 1964 and on 8 January 1966, the 9 TCS was redesignated the 9th Military Airlift Squadron (MAS) and assigned to Dover AFB, Delaware. Flying C-124s (1965-1966) and C-141s (1966-1968), the squadron flew a broad spectrum of missions which included support of Presidentia' trips, resupply of troops in Southeast Asia, and scientific expeditions to the Antarctic.

The 9th MAS was deactivated again in 1968, only to be reactivated yet again on 8 April 1971. In July 1971, the squadron began receiving the C-5A Galaxy. Since then, the 9th MAS has actively supported airlift operations throughout the world, such as humanitarian relief operations to earthquake and weather stricken areas; Vietmanese refugee evacuations; Cuban airlift; and countless high-level, high-interest Army and Air Force exercises.

In July 1978, a 9th MAS crew received the coveted McKay Trophy from the Air Force Chief of Staff, for the most meritorious flight of 1977. This special assignment airlift mission flew non-stop from Chicago to

Moscow, airlifting a 40-ton superconducting magnet along with 45 tons of related equipment. The 5,900 mile flight was an aeronautical first in that it was the first time in the history of aviation that an aircraft with a payload this heavy had flown so far, non-stop.

In 1979, a 9th MAS crew was the co-recipient, along with a crew from her sister squadron (3d MAS), of the McKay Trophy for exceptional competence, determination, and total dedication exhibited during the Zaire Airlift Operation of May 1978. In 1981, 1982, 1984, 1986, and 1988, the 9th MAS was selected as the 436th Military Airlift Wing's (MAW) nominee for the Military Airlift Command's (MAC) Outstanding Airlift Squadron.

In October and November 1983, 9th MAS crews flew 13 missions in support of Grenada rescue operation Urgent Fury. In the summer and fall of 1984, 9th MAS crews were heavily involved in the deployment and redeployment of mine sweeping helicopters and associated equipment to the Middle East to combat mining of the Suez Canal and Red Sea.

On 13 March 1985, a 9th MAS crew airlifted the Inertial Upper Stage Rocket Motors which are used to boost satellites to a higher orbit once released from the Space Shuttle. This \$25 million cargo was highly explosive and required strict temperature controls and special on/off loading procedures.

On 2 December 1985, the 9th MAS airlifted three commercial helicopters and 15 tons of associated support equipment from Khartoum International Airport, Sudan, back to the United States. These helicopters were used to distribute famine relief supplies to drought stricken areas surrounding Khartoum and in Ethiopia. Due to the politically unstable environment of the region, the breakdown, packaging, and loading were accomplished in record time.

On 7 June 1989, the 9th MAS had another chance to show the world the extraordinary skill and flexibility of its crews. On that date at Airlift Rodeo held at Pope AFB, North Carolina, combined 3rd and 9th MAS aircrews set an official world's record for the heaviest airdropped load ever made. The load consisted of four U.S. Army M551 Sheridan Light tanks weighing over 20 tons each, and 73 fully combat equipped paratroopers. The total weight of the dropped load was an astounding 190,493 pounds, which is more than the maximum weight takeoff of a C-130 Hercules.

Late December 1989 and early January 1990 saw 9th MAS crews heavily committed, flying numerous support missions for U.S. combat troops in Panama during Operation JUST CAUSE. In August 1990, the 9th MAS helped form the air bridge between the continental United States and the Middle East as active participants in the defense of Saudia Arabia-Operation DESERT SHIELD. The 9th continued to excel by flying combat support missions in Operation DESERT STORM that begun on 17 January 1991 to expel Iraqi forces from Kuwait.

On 1 November 1991, the 9th Military Airlift Squadron became the 9th Airlift Squadron (AS). The 9th AS transferred from the Military Airlift Command, which was deactivated, to the Air Mobility Command on 1 June 1992.

Outstanding performances such as these have been the norm, not the exception, for the 9th Military Airlift Squadron throughout its distinguished history.

ENDNOTES

1. Major Campbell, JULLS Long Report #42445-83488 (06755), 9 February 1993.

2. Brooks L. Bash, CRAF: The Persian Gulf War and Implications for the Future, (Cameron Station, VA: Defense Technical Information Center, June 1992): 7.

3. Ibid, 14.

4. LTC Mantor, JULLS Long Report #82783-81130 (06818), 9 February 1993.

5. Major Brown, JULLS Long Report #61973-89478 (06415), 9 February 1993.

6. Stewart M. Powell, "They Deliver," Air Force Magazine 74 (August 1991): 52.

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